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SOLUTIA

Applied Chemistry, Creative Solutions

Solutia Inc.
J.F. Queeny Plant
201 Russell Blvd.
St. Louis, Missouri 63104
Tel 314-622-1400

January 10, 2002

Mr. James Gulliford
Regional Administrator
U.S. Environmental Protection Agency
Region VII
901 N. 5th Street
Kansas City, Kansas 66101

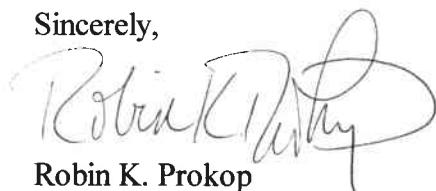
RE: Data Gap Work Plan Implementation
Solutia J.F. Queeny Facility
EPA ID No. MOD004954111

Dear Mr. Gulliford:

Enclosed is a data report for supplemental groundwater sampling that was conducted at Solutia's John F. Queeny facility in St. Louis, MO. The sampling was performed at the Former Bulk Chemical Storage Area, one of the solid waste management units being evaluated as part of the Solutia's Data Gap RCRA Facility Investigation. This supplemental information will become part of the data base being developed to evaluate this unit.

Should you have any questions or require any additional information, please call Michael House, the Solutia Manager for this project. He can be reached at 314-674-6717.

Sincerely,



Robin K. Prokop
Plant Manager

Enclosures

Cc: Richard Nussbaum, Missouri Department of Natural Resources
Robert Cheever, Solutia



R00189442
RCRA RECORDS CENTER

Bcc: Alan Faust, Solutia (w/o enclosures)
Michael House, Solutia " "
Jim Sherman, Solutia " "
Robert Billman, URS " "

RCRA FACILITY INVESTIGATION DATA GAP INVESTIGATION

**DATA REPORT: GROUNDWATER
SAMPLING AT THE FORMER BULK
CHEMICAL STORAGE AREA
JOHN F. QUEENY PLANT
ST. LOUIS, MISSOURI**



Prepared for
Solutia Inc.
575 Maryville Centre Drive
St. Louis, Missouri 63141



January 2002

URS

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23-20000058.003

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This report presents the results of groundwater sampling conducted at the former Bulk Chemical Storage Area. These data are supplemental to, and were collected in conjunction with the Resource Conservation and Recovery Act (RCRA) Facility Investigation (RFI) Data Gap Investigation that Solutia Inc. (Solutia) is performing at its John F. Queeny Plant (Queeny Plant) in St. Louis, Missouri. The data were collected at the request of Solutia.

This work was conducted in accordance with the approved Data Gap Work Plan (September 24, 1999) (including project Quality Assurance Project Plan (QAPP) and Health and Safety Plan (HASP)), and approved modifications and amendments. URS Corporation (URS) conducted the fieldwork on September 21 and 22, 2001.

The project work was performed by URS under the direction of Solutia. The supplemental field activities were conducted in accordance with the Data Gap work plan, Health and Safety Plan (HASP) and approved amendments and modifications. The field work was conducted in USEPA Modified Level D personal protective equipment (PPE). Health and safety related information was primarily recorded in field logbooks or on the well development sheets.

A total of 7 monitoring wells (MW-24A, -24B, -25A, -25B, VW-1, VW-2 and VW-2B) were developed and sampled during this investigation. The locations of the wells and piezometers of the former Bulk Chemical Storage Area are illustrated on **Figure 1**.

Prior to sampling, groundwater elevations were measured to the nearest 1/100 ft and the potential presence of separate phase product was evaluated at each monitoring well using an electronic interface probe. In addition, the total depth of the monitoring wells was gauged and compared to historic depths. The groundwater elevations, screened intervals, and monitoring well information are summarized in **Table 1**.

The monitoring wells were developed using either a polyethylene bailer or Enviro-Tech's "Purger Pump" and polyethylene tubing. Each monitoring well was developed until the temperature, specific conductance, and pH readings stabilized over a minimum of two successive well volumes and a minimum of three well volumes had been removed. The criteria used to determine stabilization is provided below:

- ± 0.25 units for pH
- $\pm 10\%$ for specific conductance
- $\pm 1^\circ \text{C}$ for Temperature.

Well development sheets are included in **Appendix A**.

Groundwater samples were collected using disposable, polyethylene bailers and personnel conducting the groundwater sampling wore clean disposable protective gloves. The bailers were attached to a new poly-rope and lowered slowly into the well to minimize agitation of the standing water. Samples were transferred from the bailer to the sample containers in a manner that minimized agitation and aeration. The sample from monitoring well MW-24A was bottom-filled to insure that the sample was segregated from the light non-aqueous phase liquid (LNAPL) that was present. The containers were labeled with a sample identification number, site name, sampler's initials, date and time of sample collection, preservative, and the parameters to be analyzed. After sample collection, the samples were logged on a COC form, packaged to

SECTION TWO

Groundwater Sampling Procedures

prevent damage during shipment, and placed in an iced cooler. Field parameters were measured after each well volume and at the time of sampling and are shown on the monitoring development sheets (**Appendix A**). Quality assurance samples in the form of a duplicate, trip blank, matrix spike, and a matrix spike duplicate were also collected.

Non-disposable purging and sampling equipment was decontaminated between each sample acquisition by washing with an Alconox® detergent wash, a potable water rinse, and a distilled water rinse.

Investigation derived waste (IDW) from the sampling activities were managed in accordance with Solutia standard operating procedures for the Queeny Plant. Both decontamination and purge water were transferred to a 500-gallon polyethylene tank that was staged onsite. As previously requested by the Metropolitan Sewer District (MSD), a composite sample of the water (designated Batch 8) was analyzed for VOCs, selected metals (arsenic, barium, copper, lead, zinc), amenable cyanide, PCBs and alachlor by Severn Trent Laboratories, Inc. St. Louis, Missouri (STL) facility. Copies of the laboratory analytical results are included in **Appendix B**.

On November 29, 2001 Solutia submitted to MSD, the IDW analytical results along with a request for an extension of the Special Discharge Application that was originally approved in a letter dated July 3, 2000.

The contents of Batch 8 and the results of MSD's review are shown in the table below.

| Batch Number | Contents | Results |
|---------------------|---|------------------------|
| 8 | Decontamination water and purge water from wells: MW-24A, -24B, -25A, -25B, VW-1, VW-2 and VW-2B | Approved for discharge |

MSD approved Batch 8 on November 29, 2001, and the water associated with this batch was discharged at a controlled rate to the facility sewer at monitoring point 003 on November 30, 2001.

The investigative water samples collected during the supplemental activities were submitted to STL, Inc. in Savannah, Georgia for testing. The analytical procedures conformed to the methods and procedures specified in the Quality Assurance Project Plan (QAPP) for the Data Gap Investigation. The groundwater samples were analyzed for VOCs by Method 8260. Laboratory data from STL were provided in electronic and hard copy form. The supplemental analytical data were electronically loaded into the Microsoft Access® database created for the Data Gap Investigation.

The analytical data were independently validated by URS as outlined in the QAPP. The validation procedure used was consistent with the USEPA guidelines for the validation of laboratory data (USEPA, 1993 and 1994). Revisions to the database were made after URS completed data validation. Data qualifiers were written on the hard copies of the data and were manually entered into the database. Results were acceptable (no qualifications, or J or UJ qualifiers) for 100 percent of the data; no data were rejected.

The analytes detected in the groundwater samples collected during this investigation are summarized in **Table 2**. The results are presented by hydrostratigraphic unit (i.e., fill and silty clay, sand). Refer to **Table 3** for definitions of data qualifiers. Laboratory data sheets for this sampling are included in **Appendix C**.

The data will become part of the on-going database for evaluating the groundwater at this SWMU.

Tables

URS

T E 1
MONITORING WELL COMPLETION SUMMARY AND GROUNDWATER ELEVATIONS

| Monitoring Well Identification | Top of Casing Elevation (ft MSL) | Total Well Depth (ft btoc) | Bottom of Well Elevation (ft MSL) | Screened Interval (ft btoc) | Screened Interval Elevation (ft MSL) | Depth to Water (ft btoc) | Water Elevation (ft MSL) | Comments |
|----------------------------------|----------------------------------|----------------------------|-----------------------------------|-----------------------------|--------------------------------------|--------------------------|--------------------------|--------------------------|
| Fill and Silty Clay Wells | | | | | | | | |
| MW-24A | 420.80 | 28.10 | 392.70 | (18.13-28.13) | (402.67-392.67) | 24.97 | 395.83 | LNAPL (24.97-25.06 BTOC) |
| MW-25A | 419.90 | 29.71 | 390.19 | (19.97-29.97) | (399.93-389.93) | 27.83 | 392.07 | |
| VW-1 | 419.12 | 16.15 | 402.97 | (6.00-16.00) | (413.12-403.12) | 9.91 | 409.21 | |
| VW-2 | 419.17 | 13.18 | 405.99 | (6.00-16.00) | (413.17-403.17) | 10.38 | 408.79 | |
| Sand Wells | | | | | | | | |
| MW-24B | 420.84 | 45.60 | 375.24 | (34.56-44.56) | (386.28-376.28) | 38.97 | 381.87 | |
| MW-25B | 419.99 | 47.25 | 372.74 | (37.70-47.70) | (382.29-372.89) | 36.47 | 383.52 | |
| VW-2B | 419.55 | 76.81 | 342.74 | (67.30-77.30) | (352.25-342.25) | 36.72 | 382.83 | |

Notes:

- 1.) MSL=Mean Sea Level
- 2.) btoc= below top of casing

3.) The wells were gauged on September 20th and 21st, 2001.

Note: Refer to Table 3 for qualifier definitions.

TABLE 2
SUMMARY OF GROUNDWATER ANALYTICAL DETECTIONS

| Sample ID | Sample Date | Method | Analyte | Result | Units | Lab Q | URS Q |
|----------------------------------|-------------|--------|----------------------------|--------|-------|-------|-------|
| Fill and Silty Clay Wells | | | | | | | |
| MW-24A | 09/20/01 | 8260 | Benzene | 18000 | ug/l | | |
| MW-24A | 09/20/01 | 8260 | Chlorobenzene | 17000 | ug/l | | |
| MW-24A | 09/20/01 | 8260 | Ethylbenzene | 1400 | ug/l | | |
| MW-24A | 09/20/01 | 8260 | Xylene (Total) | 4500 | ug/l | | |
| MW-25A | 09/21/01 | 8260 | Benzene | 300 | ug/l | | |
| MW-25A | 09/21/01 | 8260 | Chlorobenzene | 3400 | ug/l | | |
| MW-25A | 09/21/01 | 8260 | Ethylbenzene | 25 | ug/l | J | |
| MW-25A | 09/21/01 | 8260 | Toluene | 30 | ug/l | J | |
| MW-25A | 09/21/01 | 8260 | Xylene (Total) | 66 | ug/l | J | |
| VW-1 | 09/20/01 | 8260 | Benzene | 16000 | ug/l | | |
| VW-1 | 09/20/01 | 8260 | Chlorobenzene | 3400 | ug/l | | |
| VW-2 | 09/21/01 | 8260 | Benzene | 100 | ug/l | | |
| VW-2 | 09/21/01 | 8260 | Chlorobenzene | 920 | ug/l | D | |
| Sands Wells | | | | | | | |
| MW-24B | 09/20/01 | 8260 | Benzene | 7800 | ug/l | | |
| MW-24B | 09/20/01 | 8260 | Chlorobenzene | 160000 | ug/l | D | |
| MW-24B | 09/20/01 | 8260 | Ethylbenzene | 220 | ug/l | J | |
| MW-24B | 09/20/01 | 8260 | Toluene | 1200 | ug/l | | |
| MW-24B | 09/20/01 | 8260 | Xylene (Total) | 490 | ug/l | J | |
| MW-24B (DUP) | 09/20/01 | 8260 | Benzene | 8100 | ug/l | | |
| MW-24B (DUP) | 09/20/01 | 8260 | Chlorobenzene | 160000 | ug/l | | |
| MW-24B (DUP) | 09/20/01 | 8260 | Methylene chloride | 710 | ug/l | J | |
| MW-24B (DUP) | 09/20/01 | 8260 | Toluene | 1900 | ug/l | J | |
| MW-25B | 09/21/01 | 8260 | Acetone | 13 | ug/l | J | |
| MW-25B | 09/21/01 | 8260 | Benzene | 35 | ug/l | | |
| MW-25B | 09/21/01 | 8260 | Chlorobenzene | 240 | ug/l | D | |
| MW-25B | 09/21/01 | 8260 | 1,2-Dichloroethene (Total) | 20 | ug/l | | |
| MW-25B | 09/21/01 | 8260 | Ethylbenzene | 9.4 | ug/l | | |
| MW-25B | 09/21/01 | 8260 | Toluene | 1.6 | ug/l | J | |
| MW-25B | 09/21/01 | 8260 | Vinyl chloride | 12 | ug/l | | |
| VW-2B | 09/20/01 | 8260 | Benzene | 2.8 | ug/l | J | |
| VW-2B | 09/20/01 | 8260 | Chlorobenzene | 170 | ug/l | | |
| VW-2B | 09/20/01 | 8270 | Chloromethane | 4.5 | ug/l | J | |
| VW-2B | 09/20/01 | 8260 | 1,2-Dichloroethene (Total) | 230 | ug/l | | |
| VW-2B | 09/20/01 | 8260 | Toluene | 1.4 | ug/l | J | |
| VW-2B | 09/20/01 | 8260 | Vinyl chloride | 34 | ug/l | | |

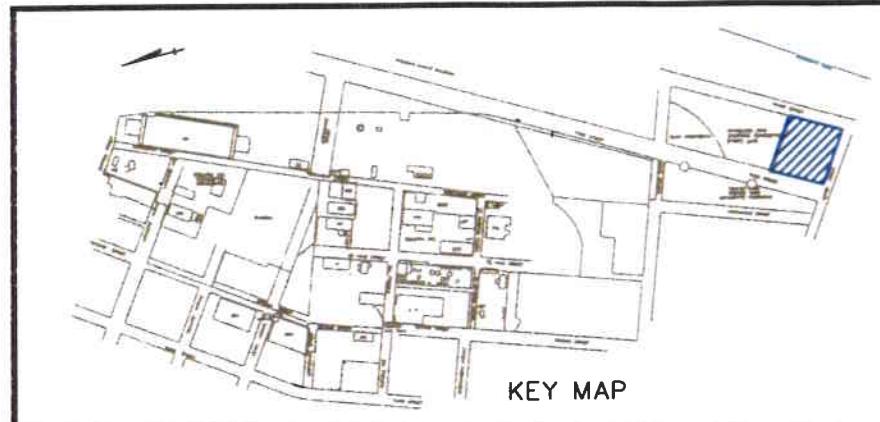
TABLE 3
ANALYTICAL RESULTS QUALIFIER DEFINITIONS

| URS QUALIFIERS | |
|-----------------------|---|
| QUALIFIER | DEFINITIONS ¹ |
| U | The analyte was analyzed for, but was not detected above the level of the associated value. The associate value is either the sample quantitation limit or the sample detection limit. |
| J | The associated value is an estimated quantity |
| UJ | The material was analyzed for, but was not detected. The associated value is an estimate and may be inaccurate or imprecise. |
| N | Presumptive evidence of presence. Analyte may or may not be present. |
| NJ | The analysis indicates the presence of an analyte that has been "tentatively identified" and the associated numerical value represents its approximate concentration. |
| LABORATORY QUALIFIERS | |
| QUALIFIER | INORGANIC QUALIFIER DEFINITIONS |
| B | This flag indicates the reported value was obtained from a reading that was less than the Contract Required Detection Limit (CRDL) but greater than or equal to the Instrument Detection Limit (IDL). |
| E | This flag indicates the reported value is estimated because of the presence of interference. |
| M | This flag indicates that duplicate injection precision was not met. |
| N | This flag indicates that spiked sample recovery is not within control limits. |
| S | This flag indicates that the reported value was determined by the Method of Standard Additions (MSA). |
| U | This flag indicates the analyte was analyzed for but was not detected. |
| * | This flag indicates that duplicate analysis is not within control limits. |
| + | This flag indicates the correlation coefficient for the MSA is less than 0.995. |
| QUALIFIER | ORGANIC QUALIFIER DEFINITIONS |
| B | This flag is used when the analyte if found in the associated method blank as well as in the sample. |
| C | This flag applies to pesticide results where the identification has been confirmed by GC/MS. |
| D | If a sample or extract is reanalyzed at a higher dilution factor, the DL suffix is appended to the sample number of the Form I for the more diluted sample, and all reported concentrations on that Form I are flagged with the D flag. |
| E | This flag identifies compounds whose concentrations exceed the upper level of the calibration range of the instrument for that specific analysis. |
| J | This flag indicates an estimated value. This flag is used (1) when estimating a concentration for tentatively identified compounds where a 1:1 response is assumed, (2) when the mass spectral and retention time data indicate the presence of a compound that meets the volatile and semivolatile GC/MS identification criteria, and the result is less than the CRQL but greater than zero, and (3) when the retention time data indicate the presence of a compound that meets the pesticide/Aroclor identification criteria, and the result is less than the CRQL but greater than zero. |
| N | This flag indicates presumptive evidence of a compound. This flag is only used for tentatively identified compounds (TICs), where the identification is based on a mass spectral library search. |
| P | This flag is used for pesticide/Aroclor target analyte when there is greater than 35% difference for detected concentrations between the two GC columns. |
| U | This flag indicates the compound was analyzed for but not detected. |
| X | Laboratory defined flag. |

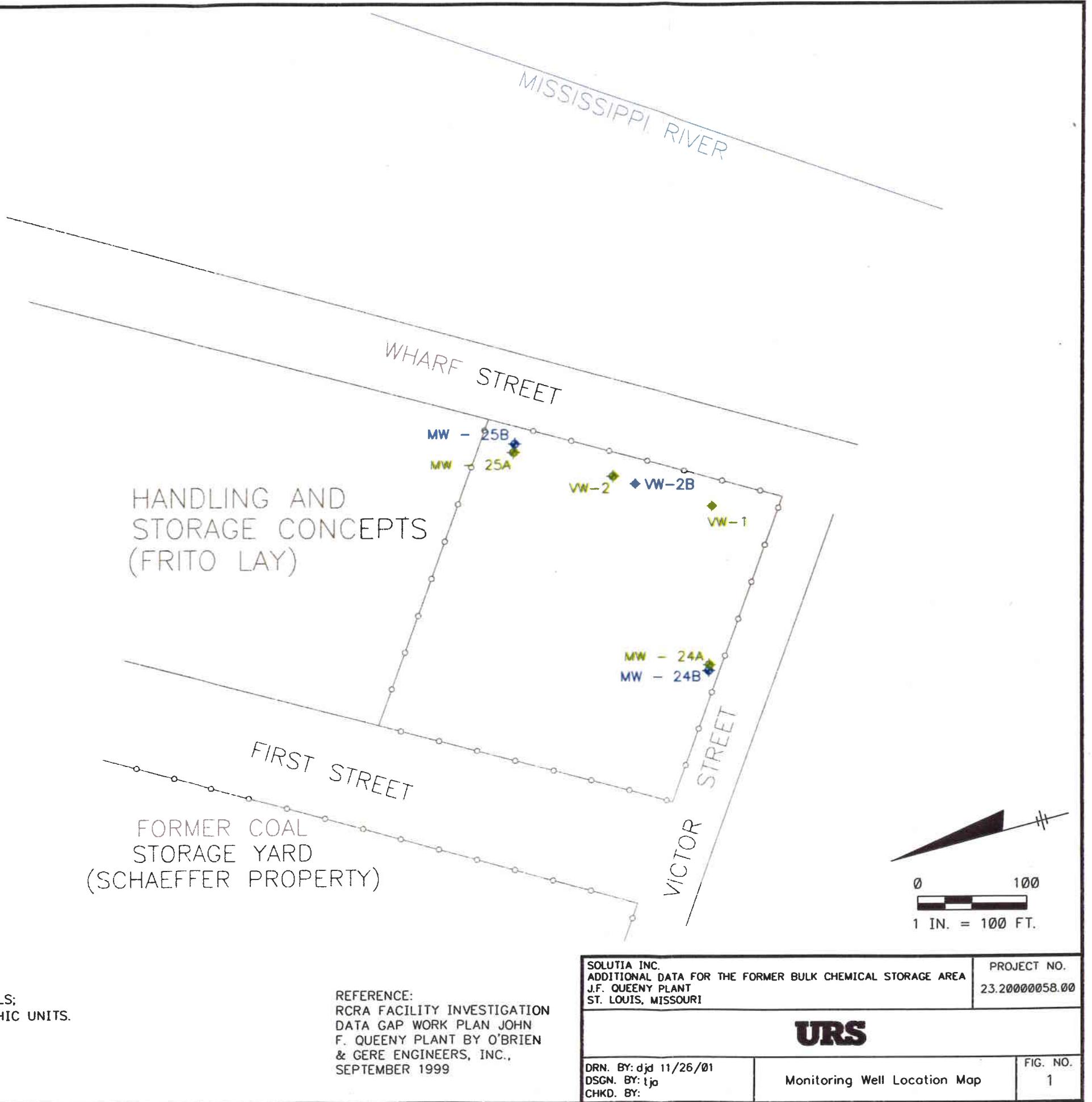
¹ USEPA Contract Laboratory Program National Functional Guidelines for Inorganic Data Review, February 1994.

Figures

URS



KEY MAP



APPENDIX A

Monitoring Well Development and Groundwater Sampling Sheets

URS

URS CORPORATION
GROUNDWATER SAMPLE COLLECTION FIELD SHEET

Site Name: Solutia Queeny RFI

Site ID: MW-24A

Date/Time Collected: 9/20/01 1200

Sampling Method: Disposable 3" poly barrier

Project No: 23-20000058.00

Well Location: FT. Bulk Chem. St. Area

Depth to water (from top of casing): 24.92 ft - to screen top

Sample Split? (Circle one)

Yes

No

Duplicate Sample (Circle one)

Yes

No

Duplicate ID: _____

Matrix Spike/Matrix Spike Duplicate (Circle one)

Yes

No

MS/MSD ID: _____

| Sample Collected | Sample Container | Preservative | Analysis Required |
|------------------|---|------------------|---|
| ✓ | (3) 40ml VOA | HCL | VOCs (Method 8260) |
| | (2) 1-L amber | | SVOCs (Method 8270) |
| | (2) 1-L amber | | Pesticides (Method 8141) |
| | (2) 1-L amber | | PCBs (Method 8082) |
| | (1) 250 ml polyethylene (for filtered metals) | HNO ₃ | Metals/Mercury (Method 6010 / 7470) |
| | (1) 250 ml polyethylene (for unfiltered metals) | HNO ₃ | Metals/Mercury (Method 6010 / 7470) |
| | (1) 250 ml polyethylene | NAOH | Cyanide (Method 9012) |
| | (1) 250 ml polyethylene | | Alkalinity, CL, SO ₄ , NO ₃ (Method 310.1, 300.0) |
| | (1) 500 ml polyethylene | Zinc acetate | Sulfide (Method 9034) |
| | (1) 250 ml polyethylene (filtered) | | Fe(II) (ASTM 3500) |
| | (3) 40ml VOA | | Methane/Ethane/Ethene |
| | (1) 125 ml amber | HCL | TOC (Method 9060) |

Air space Screening (Circle one) Yes

No

Reading: _____

D/FID type: _____

See log book & well purging sheets.

Comments: _____

Samplers: Bittman / Adams

Res: Jabat Bittman

URS CORPORATION
GROUNDWATER SAMPLE COLLECTION FIELD SHEET

Name: Solutia Queeny RFI

Project No: 23-20000058.00

Site ID: MW-24B

Well Location: Ft. Bulk Chem, St. Are.

Date Collected: 9/22/01 1140

Depth to water (from top of casing): _____

Sampling Method: Disposable Poly Bag

Sample Split? (Circle one)

Yes

No

Duplicate Sample (Circle one)

Yes

No

Duplicate ID: MW-24B Dup

Matrix Spike/Matrix Spike Duplicate (Circle one)

Yes

No

MS/MSD ID: _____

| Sample Collected | Sample Container | Preservative | Analysis Required |
|------------------|---|------------------|---|
| ✓ | (3) 40ml VOA | HCL | VOCs (Method 8260) |
| | (2) 1-L amber | | SVOCs (Method 8270) |
| | (2) 1-L amber | | Pesticides (Method 8141) |
| | (2) 1-L amber | | PCBs (Method 8082) |
| | (1) 250 ml polyethylene (for filtered metals) | HNO ₃ | Metals/Mercury (Method 6010 / 7470) |
| | (1) 250 ml polyethylene (for unfiltered metals) | HNO ₃ | Metals/Mercury (Method 6010 / 7470) |
| | (1) 250 ml polyethylene | NAOH | Cyanide (Method 9012) |
| | (1) 250 ml polyethylene | | Alkalinity, CL, SO ₄ , NO ₃ (Method 310.1, 300.0) |
| | (1) 500 ml polyethylene | Zinc acetate | Sulfide (Method 9034) |
| | (1) 250 ml polyethylene (filtered) | | Fe(II) (ASTM 3500) |
| | (3) 40ml VOA | | Methane/Ethane/Ethene |
| | (1) 125 ml amber | HCL | TOC (Method 9060) |

Airspace Screening (Circle one) Yes No

Reading: _____

See log book & well purging sheets

Comments: _____

Approvers: Bilinan | Adams

Robert Bilinan

Res: _____

URS CORPORATION
GROUNDWATER SAMPLE COLLECTION FIELD SHEET

S Name: Solutia Queeny RFI
 S #: MW-25A
 D Time Collected: 9-21-01 1045
 Sampling Method: Hand Bail

Project No: 23-20000058.00

Well Location: MW-25A

Depth to water (from top of casing): 27.83'

Sample Split? (Circle one)

Yes

No

Duplicate Sample (Circle one)

Yes

No

Matrix Spike/Matrix Spike Duplicate (Circle one)

Yes

No

Duplicate ID: _____

MS/MSD ID: _____

| Sample Collected | Sample Container | Preservative | Analysis Required |
|------------------|---|------------------|---|
| X | (3) 40ml VOA | HCL | VOCs (Method 8260) |
| | (2) 1-L amber | | SVOCs (Method 8270) |
| | (2) 1-L amber | | Pesticides (Method 8141) |
| | (2) 1-L amber | | PCBs (Method 8082) |
| | (1) 250 ml polyethylene (for filtered metals) | HNO ₃ | Metals/Mercury (Method 6010 / 7470) |
| | (1) 250 ml polyethylene (for unfiltered metals) | HNO ₃ | Metals/Mercury (Method 6010 / 7470) |
| | (1) 250 ml polyethylene | NAOH | Cyanide (Method 9012) |
| | (1) 250 ml polyethylene | | Alkalinity, CL, SO ₄ , NO ₃ (Method 310.1, 300.0) |
| | (1) 500 ml polyethylene | Zinc acetate | Sulfide (Method 9034) |
| | (1) 250 ml polyethylene (filtered) | | Fe(II) (ASTM 3500) |
| | (3) 40ml VOA | | Methane/Ethane/Ethene |
| | (1) 125 ml amber | HCL | TOC (Method 9060) |

Indspace Screening (Circle one)

Yes

No

Reading: 1.4 ppm

I/FID type: _____

Comments: _____

Approvers: J Adams / J Schwent

Sign: J Adams

URS

GROUNDWATER PLING DATA SHEET

PROJECT NAME: Solytia Queeny BFT (DATA GAP) PROJECT NUMBER: 23-20000058-C
DATE: 9-21-01
WEATHER: Sunny, high 70's
FIELD PERSONNEL: T. JEFF ALEXANDER, TEL SCHWARTZ
MONITORING WELL ID: MD-25B

INITIAL DATA

Well Diameter 4 In. Gallons/Lin. Ft.¹: 0.1252 Ambient PID/FID Reading: 0 ppm
 Total Depth of Well: 47.25 ft Vol. of Water Column: 7.04 gallons Wellbore PID/FID Reading: 0 ppm
 Depth to Water: 30.47 ft Min. Purge Volume: 21.12 gallons (3 volumes) LNAPL / DNAPL - ft
 Height of water Column: 16.75 ft Depth to Top of Screen - ft.

¹ 0.163 gallons/ft for 2-inch well, 0.653 gallons/ft for 4-inch well.

PURGE DATA

Purge Method:

Start Time: 1400 Purge Stop Time: 1410 Elapsed Time: 10 Mins. Total Volume Purged 21 Gals.

Average Purge Rate (gallons/min): 2 Well Volumes Purged: 1

Water Quality Meter ID: 0-22 (4-10) Calibrated on: 9-21-11

SAMPLING DATA

Sampling method:

Sample Date: 6-21-01 Sample Time: 1415 Analysis: 82101-VLS

COMMENTS:

URS CORPORATION
GROUNDWATER SAMPLE COLLECTION FIELD SHEET

Site Name: Solutia Queeny RFI
D: MW-25B
Date/Time Collected: 9-21-01 14:15
Sampling Method: Hand Bail

Project No: 23-20000058.00

Well Location: MW-25B

Depth to water (from top of casing): 30.47'

Multiple Split? (Circle one)

Yes

No

Duplicate Sample (Circle one)

Yes

No

Matrix Spike/Matrix Spike Duplicate (Circle one)

Yes

No

Duplicate ID: _____

MS/MSD ID: _____

| Sample Collected | Sample Container | Preservative | Analysis Required |
|------------------|---|------------------|---|
| X | (3) 40ml VOA | HCL | VOCs (Method 8260) |
| | (2) 1-L amber | | SVOCs (Method 8270) |
| | (2) 1-L amber | | Pesticides (Method 8141) |
| | (2) 1-L amber | | PCBs (Method 8082) |
| | (1) 250 ml polyethylene (for filtered metals) | HNO ₃ | Metals/Mercury (Method 6010 / 7470) |
| | (1) 250 ml polyethylene (for unfiltered metals) | HNO ₃ | Metals/Mercury (Method 6010 / 7470) |
| | (1) 250 ml polyethylene | NAOH | Cyanide (Method 9012) |
| | (1) 250 ml polyethylene | | Alkalinity, CL, SO ₄ , NO ₃ (Method 310.1, 300.0) |
| | (1) 500 ml polyethylene | Zinc acetate | Sulfide (Method 9034) |
| | (1) 250 ml polyethylene (filtered) | | Fe(II) (ASTM 3500) |
| | (3) 40ml VOA | | Methane/Ethane/Ethene |
| | (1) 125 ml amber | HCL | TOC (Method 9060) |

Airspace Screening (Circle one)

Yes

No

Reading: 0 ppm

FID type: _____

Comments: _____

Samplers: J Adams / J Schawni

Signatures: J Adams

URS

GROUNDWATER DRILLING DATA SHEET

PROJECT NAME: Solutia Queeny BFT (DATA GAP) PROJECT NUMBER: 23-20000058-C
DATE: 9/20/01
WEATHER: Sunny, 70°
FIELD PERSONNEL: B. B. May, J. Adams
MONITORING WELL ID: MW-1

INITIAL DATA

DATA
 Well Diameter 2" In. Gallons/Lin. Ft.¹: 0.163 Ambient PID/FID Reading: 0 ppm
 Total Depth of Well: 16.15 ft Vol. of Water Column: 160 gallons Wellbore PID/FID Reading: 0 ppm
 Depth to Water: 9.91 ft Min. Purge Volume: ~3 gallons (3 volumes) LNAPL / DNAPL — ft
 Height of water Column: 6.24 ft Depth to Top of Screen — ft.

¹ 0.163 gallons/ft for 2-inch well, 0.653 gallons/ft for 4-inch well

PURGE DATA

Purge Method: *Disposable bailes*

Start Time: 1405 Purge Stop Time: 1430 Elapsed Time: 15 Mins. Total Volume Purged ~5 Gals.

Average Purge Rate (gallons/min): 1/3 Well Volumes Purged: 45

Water Quality Meter ID: H-100-J-23 Calibrated on: 9/10/2011

SAMPLING DATA

Sampling method:

Sample Date: 9/2/01

Sample Time: 14:30

Analysis: V(X)

COMMENTS:

CONTINUATION

URS CORPORATION
GROUNDWATER SAMPLE COLLECTION FIELD SHEET

Name: Solutia Queeny RFI

Project No: 23-20000058.00

ID: VW-1

Well Location: FC Building Storage Area

Date/Time Collected: 9/20/01 1430

Depth to water (from top of casing): 93.1' feet above ground

Sampling Method: Discharge not Bole

Sample Split? (Circle one)

Yes No

Duplicate Sample (Circle one)

Yes No

Duplicate ID: _____

Matrix Spike/Matrix Spike Duplicate (Circle one)

Yes No

MS/MSD ID: _____

| Sample Collected | Sample Container | Preservative | Analysis Required |
|------------------|---|------------------|---|
| | (3) 40ml VOA | HCL | VOCs (Method 8260) |
| | (2) 1-L amber | | SVOCs (Method 8270) |
| | (2) 1-L amber | | Pesticides (Method 8141) |
| | (2) 1-L amber | | PCBs (Method 8082) |
| | (1) 250 ml polyethylene (for filtered metals) | HNO ₃ | Metals/Mercury (Method 6010 / 7470) |
| | (1) 250 ml polyethylene (for unfiltered metals) | HNO ₃ | Metals/Mercury (Method 6010 / 7470) |
| | (1) 250 ml polyethylene | NAOH | Cyanide (Method 9012) |
| | (1) 250 ml polyethylene | | Alkalinity, CL, SO ₄ , NO ₃ (Method 310.1, 300.0) |
| | (1) 500 ml polyethylene | Zinc acetate | Sulfide (Method 9034) |
| | (1) 250 ml polyethylene (filtered) | | Fe(II) (ASTM 3500) |
| | (3) 40ml VOA | | Methane/Ethane/Ethene |
| | (1) 125 ml amber | HCL | TOC (Method 9060) |

Airspace Screening (Circle one) Yes

No

Reading: _____

O/FID type: _____

Comments: _____

Samplers: B. Bunn & J. Adams

Signatures: J. Adams

GROUNDWATER DRILLING DATA SHEET

PROJECT NAME: Solutia Queeny BFT (DATA GAP) PROJECT NUMBER: 23-20000058-C
DATE: 9/20/01
WEATHER: Sunny 70°
FIELD PERSONNEL: B.Billman, J.Adams
MONITORING WELL ID: MW-2

INITIAL DATA

Well Diameter 2" in. Gallons/Lin. Ft.¹: 7.48 Ambient PID/FID Reading: _____ ppm
Total Depth of Well: 13.13 ft Vol. of Water Column: 17.5 gallons Wellbore PID/FID Reading: _____ ppm
Depth to Water: 10.33 ft Min. Purge Volume: 17.5 gallons (3 volumes) LNAPL / DNAPL _____ ft
Height of water Column: 10.33 ft Depth to Top of Screen _____ ft.

¹ 0.163 gallons/ft for 2-inch well, 0.653 gallons/ft for 4-inch well

PURGE DATA

Purge Method: Disposable Opt. Filter

Start Time: 1445 Purge Stop Time: 1500 Elapsed Time: 15 Mins. Total Volume Purged 20 Gals.

Average Purge Rate (gallons/min): _____ Well Volumes Purged: _____

Water Quality Meter ID: 0323100-00 **Calibrated on:** _____

SAMPLING DATA

Sampling method:

Sample Date: 9/21/01

Sample Time: 1.34 s

Analysis: VCSS

COMMENTS:

Ballet will do

URS CORPORATION
GROUNDWATER SAMPLE COLLECTION FIELD SHEET

Site Name: Solutia Queeny RFI

Project No.: 23-20000058.00

Site ID: W-2

Well Location: Bulk Cheny

Date Collected: 9/21/01 1045

Depth to water (from top of casing): _____

Sampling Method: D. 5223-001B 30-L

Sample Split? (Circle one)

Yes No

Indicate Sample (Circle one)

Yes No

Duplicate ID: _____

Matrix Spike/Matrix Spike Duplicate (Circle one)

Yes No

MS/MSD ID: _____

| Sample Collected | Sample Container | Preservative | Analysis Required |
|------------------|---|------------------|---|
| X | (3) 40ml VOA | HCL | VOCs (Method 8260) |
| | (2) 1-L amber | | SVOCs (Method 8270) |
| | (2) 1-L amber | | Pesticides (Method 8141) |
| | (2) 1-L amber | | PCBs (Method 8082) |
| | (1) 250 ml polyethylene (for filtered metals) | HNO ₃ | Metals/Mercury (Method 6010 / 7470) |
| | (1) 250 ml polyethylene (for unfiltered metals) | HNO ₃ | Metals/Mercury (Method 6010 / 7470) |
| | (1) 250 ml polyethylene | NAOH | Cyanide (Method 9012) |
| | (1) 250 ml polyethylene | | Alkalinity, CL, SO ₄ , NO ₃ (Method 310.1, 300.0) |
| | (1) 500 ml polyethylene | Zinc acetate | Sulfide (Method 9034) |
| | (1) 250 ml polyethylene (filtered) | | Fe(II) (ASTM 3500) |
| | (3) 40ml VOA | | Methane/Ethane/Ethene |
| | (1) 125 ml amber | HCL | TOC (Method 9060) |

Ispace Screening (Circle one)

Yes

No

Reading: _____

FID type: _____

Comments: _____

Signers: J. Schenck / J. Adams

gnat

J. Adams

GROUNDWATER SAMPLING DATA SHEET

PROJECT NAME: Solutia Queeny BFI (DATA GAP) PROJECT NUMBER: 23-2000
DATE: 9/1/23

PROJECT NUMBER: 23-2000058.00

WEATHER: sunny, 70°
FIELD PERSONNEL: B. Billman, J. Adams
MONITORING WELL ID: (161-2B)

INITIAL DATA

Well Diameter _____ in.
 Total Depth of Well: 76.81 ft
 Depth to Water: 36.72 ft
 Height of water Column: 40.09 ft
 Gallons/Lin. Ft.: 0.653
 Vol. of Water Column: 26.2 gallons
 Min. Purge Volume: .79 gallons (3 volumes)
 Depth to Top of Screen _____ ft.

| | | |
|---------------------------|-------------|-----|
| Ambient PID/FID Reading: | <u>15</u> | ppm |
| Wellbore PID/FID Reading: | <u>0</u> | ppm |
| LNAPL / DNAPL | <u>none</u> | ft |

¹ 0.163 gallons/ft for 2-Inch well, 0.653 gallons/ft for 4-Inch well.

PURGE DATA

Purge Method: whole house

Start Time: 1345 Purge Stop Time: 1500 Elapsed Time: 75 Mins.
Average Purge Rate (gallons/min): 3.1 Well Volumes Purged: 3 Total Volume Purged 9.30 Gals.

Water Quality Meter ID: Q20LHmB Well Volumes Purged: 3
Calibrated on: 9/20/01

SAMPLING DATA

Sampling method: Desirable Scales

Sample Date: 9/20/01 Sample Time: 15:30

Analysis: WCS

COMMENTS:

Collect MS & MSD also

COMMENTS: Collect MS & MSD also.

URS CORPORATION
GROUNDWATER SAMPLE COLLECTION FIELD SHEET

Site Name: Solutia Queeny RFI

Sample ID: VW-3B

Date Collected: 9/20/01

Time Collected: 1500

Sampling Method: Dugout, Poly Bag

Project No: 23-20000058.00

Well Location: Fenton Brick Chromate Area

Depth to water (from top of casing):

Sample Split? (Circle one)

Yes No

Yes No

Yes No

Duplicate ID:

MS/SD ID: VW-3B 105/mgC

Duplicate Sample (Circle one)

Matrix Spike/Matrix Spike Duplicate (Circle one)

| Sample Collected | Sample Container | Preservative | Analysis Required |
|------------------|---|------------------|---|
| | (3) 40ml VOA | HCL | VOCs (Method 8260) |
| | (2) 1-L amber | | SVOCs (Method 8270) |
| | (2) 1-L amber | | Pesticides (Method 8141) |
| | (2) 1-L amber | | PCBs (Method 8082) |
| | (1) 250 ml polyethylene (for filtered metals) | HNO ₃ | Metals/Mercury (Method 6010 / 7470) |
| | (1) 250 ml polyethylene (for unfiltered metals) | HNO ₃ | Metals/Mercury (Method 6010 / 7470) |
| | (1) 250 ml polyethylene | NAOH | Cyanide (Method 9012) |
| | (1) 500 ml polyethylene | | Alkalinity, CL, SO ₄ , NO ₃ (Method 310.1, 300.0) |
| | (1) 250 ml polyethylene (filtered) | Zinc acetate | Sulfide (Method 9034) |
| | (3) 40ml VOA | | Fe(II) (ASTM 3500) |
| | (1) 125 ml amber | HCL | Methane/Ethane/Ethene |
| | | | TOC (Method 9060) |

ad-space Screening (Circle one)

Yes

No

Reading:

I/I type:

Comments:

Signers: B. Bulman / J. Adams

J. Adams

APPENDIXB

Investigation Derived Waste Analytical Results

URS

Client Sample ID: BATCH-8

GC Semivolatiles

Lot-Sample #....: F1K080254-001 Work Order #....: ENKPN1AJ Matrix.....: WATER
 Date Sampled....: 11/07/01 16:00 Date Received...: 11/08/01
 Prep Date.....: 11/14/01 Analysis Date...: 11/19/01
 Prep Batch #....: 1318457 Analysis Time...: 13:36
 Dilution Factor: 10

Method.....: CFR136A 608

| <u>PARAMETER</u> | <u>RESULT</u> | <u>REPORTING</u> | |
|------------------|---------------|------------------|--------------|
| | | <u>LIMIT</u> | <u>UNITS</u> |
| Aroclor 1016 | ND | 10 | ug/L |
| Aroclor 1221 | ND | 10 | ug/L |
| Aroclor 1232 | ND | 10 | ug/L |
| Aroclor 1242 | ND | 10 | ug/L |
| Aroclor 1248 | ND | 10 | ug/L |
| Aroclor 1254 | ND | 10 | ug/L |
| Aroclor 1260 | ND | 10 | ug/L |

| <u>SURROGATE</u> | <u>PERCENT</u> | <u>RECOVERY</u> |
|----------------------|-----------------|-----------------|
| | <u>RECOVERY</u> | <u>LIMITS</u> |
| Tetrachloro-m-xylene | 0.0 DIL | (22 - 142) |
| Decachlorobiphenyl | 0.0 DIL | (10 - 162) |

NOTE(S) :

DIL The concentration is estimated or not reported due to dilution or the presence of interfering analytes.

URS

Client Sample ID: BATCH-8

GC/MS Volatiles

Lot-Sample #....: F1K080254-001 Work Order #....: ENKPN1AC Matrix.....: WATER
 Date Sampled....: 11/07/01 16:00 Date Received...: 11/08/01
 Prep Date.....: 11/15/01 Analysis Date...: 11/16/01
 Prep Batch #....: 1320122 Analysis Time...: 05:03
 Dilution Factor: 1 Method.....: SW846 8260B

| <u>PARAMETER</u> | <u>RESULT</u> | <u>REPORTING LIMIT</u> | <u>UNITS</u> |
|--------------------------|---------------|------------------------|--------------|
| Acetone | ND | 20 | ug/L |
| Benzene | ND | 5.0 | ug/L |
| Bromodichloromethane | ND | 5.0 | ug/L |
| Bromoform | ND | 5.0 | ug/L |
| 2-Butanone | ND | 20 | ug/L |
| Carbon disulfide | ND | 5.0 | ug/L |
| Carbon tetrachloride | ND | 5.0 | ug/L |
| Chlorobenzene | 26 | 5.0 | ug/L |
| Dibromochloromethane | ND | 5.0 | ug/L |
| Chloroform | ND | 5.0 | ug/L |
| Chloromethane | ND | 10 | ug/L |
| 1,2-Dichloroethane | ND | 5.0 | ug/L |
| cis-1,2-Dichloroethene | ND | 2.5 | ug/L |
| trans-1,2-Dichloroethene | ND | 2.5 | ug/L |
| Ethylbenzene | ND | 5.0 | ug/L |
| Ethyl methacrylate | ND | 10 | ug/L |
| Iodomethane | ND | 5.0 | ug/L |
| Methylene chloride | 0.91 J,B | 5.0 | ug/L |
| 4-Methyl-2-pentanone | ND | 20 | ug/L |
| Tetrachloroethene | 6600 E | 5.0 | ug/L |
| Toluene | 1.2 J,B | 5.0 | ug/L |
| 1,1,1-Trichloroethane | ND | 5.0 | ug/L |
| Trichloroethene | 3.4 J | 5.0 | ug/L |
| Vinyl chloride | ND | 5.0 | ug/L |
| Xylenes (total) | ND | 5.0 | ug/L |

| <u>SURROGATE</u> | <u>PERCENT RECOVERY</u> | <u>RECOVERY LIMITS</u> |
|-----------------------|-------------------------|------------------------|
| 4-Bromofluorobenzene | 87 | (60 - 119) |
| Toluene-d8 | 114 | (79 - 117) |
| Dibromofluoromethane | 108 | (75 - 127) |
| 1,2-Dichloroethane-d4 | 111 | (71 - 133) |

NOTE(S) :

J Estimated result. Result is less than RL.

B Method blank contamination. The associated method blank contains the target analyte at a reportable level.

E Estimated result. Result concentration exceeds the calibration range.

URS

Client Sample ID: BATCH-8

General Chemistry

Lot-Sample #....: F1K080254-001 Work Order #....: ENKPN Matrix.....: WATER
Date Sampled...: 11/07/01 16:00 Date Received...: 11/08/01

| <u>PARAMETER</u> | <u>RESULT</u> | <u>RL</u> | <u>UNITS</u> | <u>METHOD</u> | <u>PREPARATION-</u> | <u>PREP</u> |
|------------------|---------------|-----------|--------------|-------------------------|----------------------|----------------|
| | ND | 5.0 | ug/L | SW846 9012 | <u>ANALYSIS DATE</u> | <u>BATCH #</u> |
| Amenable Cyanide | | | | Dilution Factor: 1 | 11/16/01 | 1320482 |
| | | | | Analysis Time...: 00:00 | | |

URS

Client Sample ID: BATCH-8

TOTAL Metals

Lot-Sample #....: F1K080254-001

Date Sampled...: 11/07/01 16:00 Date Received...: 11/08/01

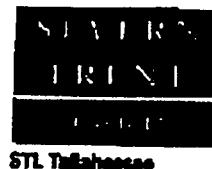
Matrix.....: WATER

| <u>PARAMETER</u> | <u>RESULT</u> | <u>REPORTING LIMIT</u> | <u>UNITS</u> | <u>METHOD</u> | <u>PREPARATION- ANALYSIS DATE</u> | <u>WORK ORDER #</u> |
|-------------------|---------------|----------------------------|--------------|-----------------------------------|---------------------------------------|-------------------------|
| Prep Batch #....: | 1319489 | | | | | |
| Arsenic | 13.8 | 10.0 | ug/L | MCAWW 200.7 Dilution Factor: 1 | Analysis Time...: 18:56 | 11/15-11/18/01 ENKPN1AD |
| Barium | 70.4 B | 200 | ug/L | MCAWW 200.7 Dilution Factor: 1 | Analysis Time...: 18:56 | 11/15-11/18/01 ENKPN1AP |
| Copper | 10 B | 25.0 | ug/L | MCAWW 200.7 Dilution Factor: 1 | Analysis Time...: 13:30 | 11/15-11/19/01 ENKPN1AG |
| Lead | ND | 3.0 | ug/L | MCAWW 200.7 Dilution Factor: 1 | Analysis Time...: 18:56 | 11/15-11/18/01 ENKPN1AB |
| Zinc | 208 | 20.0 | ug/L | MCAWW 200.7 Dilution Factor: 1 | Analysis Time...: 18:56 | 11/15-11/18/01 ENKPN1AH |

NOTE(S) :

B Estimated result. Result is less than RL.

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Mr. Ron Martino
STL St. Louis
13715 Rider Trail North
Earth City, MO 63045

LOG NO: T1-33438
Received: 09 NOV 01
Reported: 19 NOV 01

Project: Solutia Queen-1
Sampled By: Client
Code: 161011121
Page 1

REPORT OF RESULTS

| LOG NO | SAMPLE DESCRIPTION , LIQUID SAMPLES | DATE/ TIME SAMPLED |
|------------------------------------|-------------------------------------|-----------------------|
| 33438-1 | Batch 8 | 11-07-01/16:00 |
| PARAMETER | | 33438-1 |
| Organophosphorus Pesticides (8141) | | |
| Alachlor, ug/l | 390 | |
| Surrogate - Triphenylphosphate | 71 † | |
| Dilution Factor | 100 | |
| Prep Date | 11.13.01 | |
| Analysis Date | 11.16.01 | |
| Batch ID | 11138 | |

APPENDIX C

Groundwater Analytical Data (Laboratory Sheets)

ORGANIC DATA ASSESSMENT

PROJECT NO. 10-7-200251-0
 LABORATORY SLC
 LAB PROJECT NO. 100-01
 NO. OF SAMPLES/
 MATRIX 20 samples

SITE Santa Clara River
 REVIEWER Woodward-Clyde Consultants
 REVIEWER'S NAME Jeanne O.
 COMPLETION DATE 10/10/02

DATA ASSESSMENT WORKSHEET

| | Meth # 8260 | Meth # | Meth # | Meth # | Meth # |
|-----------------------|-------------|--------|--------|--------|--------|
| 1. HOLDING TIMES | ✓ | — | — | — | — |
| 2. BLANKS | ✓ | — | — | — | — |
| 3. SURROGATES | ✓ | — | — | — | — |
| 4. SCS (LCS) | ✓ | — | — | — | — |
| 5. DCS | NA | — | — | — | — |
| 6. MATRIX SPIKE/DUP | ✓ | — | — | — | — |
| 7. DILUTION | (1) | — | — | — | — |
| 8. OVERALL ASSESSMENT | O | — | — | — | — |

O = Data had no problems/or qualified due to minor problems.

M = Data qualified due to major problems.

Z = Data unacceptable.

X = Problems, but do not affect data.

ACTION ITEMS:

COMMENTS: (1) Samples VW-2B, VW-2BMS, VW-2BMSD, MW-24B DUP, MW-24A, VW-1, MW-24B, VW-2 and MW-25B were diluted by 2 to 1,250 times; however no action is necessary.

FORM 1
VOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

Lab Name: STL SAVANNAH

Contract:

16193-1

Lab Code: SL

Case No.:

SAS No.:

SDG No.: QUE009

Matrix: (soil/water) WATER

Lab Sample ID: MW-24B

Sample wt/vol: 5.00 (g/mL) ML

Lab File ID: P2836

Level: (low/med) LOW

Date Received: 09/22/01

% Moisture: not dec.

Date Analyzed: 09/25/01

GC Column: DB-624 ID: 0.18 (mm)

Dilution Factor: 100.0

Soil Extract Volume: _____ (uL)

Soil Aliquot Volume: _____ (uL)

| CAS NO. | COMPOUND | CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L | Q |
|----------------|-----------------------------|--|------------|
| 74-87-3----- | CHLOROMETHANE | 1000 | U |
| 75-01-4----- | VINYL CHLORIDE | 50 | U |
| 75-09-2----- | METHYLENE CHLORIDE | 500 | U |
| 67-66-3----- | CHLOROFORM | 500 | U |
| 71-55-6----- | 1 1 1-TRICHLOROETHANE | 500 | U |
| 56-23-5----- | CARBON TETRACHLORIDE | 500 | U |
| 71-43-2----- | BENZENE | 7800 | |
| 107-06-2----- | 1 2-DICHLOROETHANE | 500 | U |
| 79-01-6----- | TRICHLOROETHENE | 500 | U |
| 75-27-4----- | BROMODICHLOROMETHANE | 500 | U |
| 108-88-3----- | TOLUENE | 1200 | |
| 127-18-4----- | TETRACHLOROETHENE | 500 | U |
| 124-48-1----- | DIBROMOCHLOROMETHANE | 500 | U |
| 108-90-7----- | CHLOROBENZENE | 82000 | E 160000 D |
| 100-41-4----- | ETHYL BENZENE | 220 | J |
| 75-25-2----- | BROMOFORM | 500 | U |
| 67-64-1----- | ACETONE | 5000 | U |
| 74-88-4----- | IODOMETHANE | 500 | U |
| 75-15-0----- | CARBON DISULFIDE | 500 | U |
| 78-93-3----- | 2-BUTANONE | 2500 | U |
| 108-10-1----- | 4-METHYL-2-PENTANONE (MIBK) | 2500 | U |
| 540-59-0----- | 1,2-DICHLOROETHENE (total) | 500 | U |
| 1330-20-7----- | XYLENE (total) | 490 | J |
| 97-63-2----- | ETHYL METHACRYLATE | 500 | U |

FORM 1
VOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

Lab Name: STL SAVANNAH

Contract:

16193-2

Lab Code: SL

Case No.:

SAS No.:

SDG No.: QUE009

Matrix: soil/water) WATER

Lab Sample ID: MW-24B DUP

Sample wt/vol: 5.00 (g/mL) ML

Lab File ID: P2856

Level: (low/med) LOW

Date Received: 09/22/01

% Moisture: not dec.

Date Analyzed: 09/26/01

GC Column: DB-624 ID: 0.18 (mm)

Dilution Factor: 1250.0

Soil Extract Volume: (uL)

Soil Aliquot Volume: (uL)

| CAS NO. | COMPOUND | CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L | Q |
|---------|----------|--|---|
|---------|----------|--|---|

| | | | |
|----------------|-----------------------------|--------|---|
| 74-87-3----- | CHLOROMETHANE | 12000 | U |
| 75-01-4----- | VINYL CHLORIDE | 620 | U |
| 75-09-2----- | METHYLENE CHLORIDE | 710 | J |
| 67-66-3----- | CHLOROFORM | 6200 | U |
| 71-55-6----- | 1 1 1-TRICHLOROETHANE | 6200 | U |
| 56-23-5----- | CARBON TETRACHLORIDE | 6200 | U |
| 71-43-2----- | BENZENE | 8100 | |
| 107-06-2----- | 1 2-DICHLOROETHANE | 6200 | U |
| 79-01-6----- | TRICHLOROETHENE | 6200 | U |
| 75-27-4----- | BROMODICHLOROMETHANE | 6200 | U |
| 108-88-3----- | TOLUENE | 1900 | J |
| 127-18-4----- | TETRACHLOROETHENE | 6200 | U |
| 124-48-1----- | DIBROMOCHLOROMETHANE | 6200 | U |
| 108-90-7----- | CHLOROBENZENE | 160000 | |
| 100-41-4----- | ETHYL BENZENE | 6200 | U |
| 75-25-2----- | BROMOFORM | 6200 | U |
| 67-64-1----- | ACETONE | 62000 | U |
| 74-88-4----- | IODOMETHANE | 6200 | U |
| 75-15-0----- | CARBON DISULFIDE | 6200 | U |
| 78-93-3----- | 2-BUTANONE | 31000 | U |
| 108-10-1----- | 4-METHYL-2-PENTANONE (MIBK) | 31000 | U |
| 540-59-0----- | 1,2-DICHLOROETHENE (total) | 6200 | U |
| 1330-20-7----- | XYLENE (total) | 12000 | U |
| 97-63-2----- | ETHYL METHACRYLATE | 6200 | U |

FORM 1
VOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

16193-3

Lab Name: STL SAVANNAH

Contract:

Lab Code: SL

Case No.:

SAS No.:

SDG No.: QUE009

Matrix: (soil/water) WATER

Lab Sample ID: MW-24A

Sample wt/vol: 5.00 (g/mL) ML

Lab File ID: P2842

Level: (low/med) LOW

Date Received: 09/22/01

% Moisture: not dec.

Date Analyzed: 09/25/01

GC Column: DB-624 ID: 0.18 (mm)

Dilution Factor: 125.0

Soil Extract Volume: (uL)

Soil Aliquot Volume: (uL)

| CAS NO. | COMPOUND | CONCENTRATION UNITS: (ug/L or ug/Kg) | UG/L | Q |
|---------|----------|---|------|---|
|---------|----------|---|------|---|

| | | | | |
|----------------|-----------------------------|-------|---|--|
| 74-87-3----- | CHLOROMETHANE | 1200 | U | |
| 75-01-4----- | VINYL CHLORIDE | 62 | U | |
| 75-09-2----- | METHYLENE CHLORIDE | 620 | U | |
| 67-66-3----- | CHLOROFORM | 620 | U | |
| 71-55-6----- | 1 1 1-TRICHLOROETHANE | 620 | U | |
| 56-23-5----- | CARBON TETRACHLORIDE | 620 | U | |
| 71-43-2----- | BENZENE | 18000 | U | |
| 107-06-2----- | 1 2-DICHLOROETHANE | 620 | U | |
| 79-01-6----- | TRICHLOROETHENE | 620 | U | |
| 75-27-4----- | BROMODICHLOROMETHANE | 620 | U | |
| 108-88-3----- | TOLUENE | 620 | U | |
| 127-18-4----- | TETRACHLOROETHENE | 620 | U | |
| 124-48-1----- | DIBROMOCHLOROMETHANE | 620 | U | |
| 108-90-7----- | CHLOROBENZENE | 17000 | U | |
| 100-41-4----- | ETHYL BENZENE | 1400 | U | |
| 75-25-2----- | BROMOFORM | 620 | U | |
| 67-64-1----- | ACETONE | 6200 | U | |
| 74-88-4----- | IODOMETHANE | 620 | U | |
| 75-15-0----- | CARBON DISULFIDE | 620 | U | |
| 78-93-3----- | 2-BUTANONE | 3100 | U | |
| 108-10-1----- | 4-METHYL-2-PENTANONE (MIBK) | 3100 | U | |
| 540-59-0----- | 1,2-DICHLOROETHENE (total) | 620 | U | |
| 1330-20-7----- | XYLENE (total) | 4500 | U | |
| 97-63-2----- | ETHYL METHACRYLATE | 620 | U | |

FORM 1
VOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

16193-4

Lab Name: STL SAVANNAH

Contract:

Lab Code: SL Case No.:

SAS No.:

SDG No.: QUE009

Matrix: soil/water) WATER

Lab Sample ID: VW-1

Sample wt/vol: 5.00 (g/mL) ML

Lab File ID: P2838

Level: (low/med) LOW

Date Received: 09/22/01

% Moisture: not dec. _____
GC Column: DB-624 ID: 0.18 (mm)

Date Analyzed: 09/25/01

Soil Extract Volume: _____ (uL)

Dilution Factor: 100.0

Soil Aliquot Volume: _____ (uL)

| CAS NO. | COMPOUND | CONCENTRATION UNITS: (ug/L or ug/Kg) | UG/L | Q |
|----------------|-----------------------------|---|-------|---|
| 74-87-3----- | CHLOROMETHANE | | 1000 | U |
| 75-01-4----- | VINYL CHLORIDE | | 50 | U |
| 75-09-2----- | METHYLENE CHLORIDE | | 500 | U |
| 67-66-3----- | CHLOROFORM | | 500 | U |
| 71-55-6----- | 1 1 1-TRICHLOROETHANE | | 500 | U |
| 56-23-5----- | CARBON TETRACHLORIDE | | 500 | U |
| 71-43-2----- | BENZENE | | 16000 | |
| 107-06-2----- | 1 2-DICHLOROETHANE | | 500 | U |
| 79-01-6----- | TRICHLOROETHENE | | 500 | U |
| 75-27-4----- | BROMODICHLOROMETHANE | | 500 | U |
| 108-88-3----- | TOLUENE | | 500 | U |
| 127-18-4----- | TETRACHLOROETHENE | | 500 | U |
| 124-48-1----- | DIBROMOCHLOROMETHANE | | 500 | U |
| 108-90-7----- | CHLOROBENZENE | | 3400 | |
| 100-41-4----- | ETHYL BENZENE | | 500 | U |
| 75-25-2----- | BROMOFORM | | 500 | U |
| 67-64-1----- | ACETONE | | 5000 | U |
| 74-88-4----- | IODOMETHANE | | 500 | U |
| 75-15-0----- | CARBON DISULFIDE | | 500 | U |
| 78-93-3----- | 2-BUTANONE | | 2500 | U |
| 108-10-1----- | 4-METHYL-2-PENTANONE (MIBK) | | 2500 | U |
| 540-59-0----- | 1,2-DICHLOROETHENE (total) | | 500 | U |
| 1330-20-7----- | XYLENE (total) | | 1000 | U |
| 97-63-2----- | ETHYL METHACRYLATE | | 500 | U |

FORM 1
VOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

16193-5

Lab Name: STL SAVANNAH

Contract:

Lab Code: SL

Case No.:

SAS No.:

SDG No.: QUE009

Matrix: (soil/water) WATER

Lab Sample ID: VW-2B

Sample wt/vol: 5.00 (g/mL) ML

Lab File ID: P2847

Level: (low/med) LOW

Date Received: 09/22/01

% Moisture: not dec.

Date Analyzed: 09/26/01

GC Column: DB-624 ID: 0.18 (mm)

Dilution Factor: 1.0

Soil Extract Volume: _____ (uL)

Soil Aliquot Volume: _____ (uL)

| CAS NO. | COMPOUND | CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L | Q |
|---------|----------|--|---|
|---------|----------|--|---|

| | | | |
|----------------|-----------------------------|-----|---|
| 74-87-3----- | CHLOROMETHANE | 4.5 | J |
| 75-01-4----- | VINYL CHLORIDE | 34 | |
| 75-09-2----- | METHYLENE CHLORIDE | 5.0 | U |
| 67-66-3----- | CHLOROFORM | 5.0 | U |
| 71-55-6----- | 1 1 1-TRICHLOROETHANE | 5.0 | U |
| 56-23-5----- | CARBON TETRACHLORIDE | 5.0 | U |
| 71-43-2----- | BENZENE | 2.8 | J |
| 107-06-2----- | 1 2-DICHLOROETHANE | 5.0 | U |
| 79-01-6----- | TRICHLOROETHENE | 5.0 | U |
| 75-27-4----- | BROMODICHLOROMETHANE | 5.0 | U |
| 108-88-3----- | TOLUENE | 1.4 | J |
| 127-18-4----- | TETRACHLOROETHENE | 5.0 | U |
| 124-48-1----- | DIBROMOCHLOROMETHANE | 5.0 | U |
| 108-90-7----- | CHLOROBENZENE | 170 | |
| 100-41-4----- | ETHYL BENZENE | 5.0 | U |
| 75-25-2----- | BROMOFORM | 5.0 | U |
| 67-64-1----- | ACETONE | 50 | U |
| 74-88-4----- | IODOMETHANE | 5.0 | U |
| 75-15-0----- | CARBON DISULFIDE | 5.0 | U |
| 78-93-3----- | 2-BUTANONE | 25 | U |
| 108-10-1----- | 4-METHYL-2-PENTANONE (MIBK) | 25 | U |
| 540-59-0----- | 1,2-DICHLOROETHENE (total) | 230 | |
| 1330-20-7----- | XYLENE (total) | 10 | U |
| 97-63-2----- | ETHYL METHACRYLATE | 5.0 | U |

FORM 1
VOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

16193-6

Lab Name: STL SAVANNAH

Contract:

Lab Code: SL

Case No.:

SAS No.:

SDG No.: QUE009

Matrix: (soil/water) WATER

Lab Sample ID: VW-2

Sample wt/vol: 5.00 (g/mL) ML

Lab File ID: P2839

Level: (low/med) LOW

Date Received: 09/22/01

% Moisture: not dec.

Date Analyzed: 09/25/01

GC Column: DB-624 ID: 0.18 (mm)

Dilution Factor: 4.0

Soil Extract Volume: _____ (uL)

Soil Aliquot Volume: _____ (uL)

| CAS NO. | COMPOUND | CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L | Q |
|---------|----------|--|---|
|---------|----------|--|---|

| | | | |
|----------------|-----------------------------|-----|---------|
| 74-87-3----- | CHLOROMETHANE | 40 | U |
| 75-01-4----- | VINYL CHLORIDE | 2.0 | U |
| 75-09-2----- | METHYLENE CHLORIDE | 20 | U |
| 67-66-3----- | CHLOROFORM | 20 | U |
| 71-55-6----- | 1 1 1-TRICHLOROETHANE | 20 | U |
| 56-23-5----- | CARBON TETRACHLORIDE | 20 | U |
| 71-43-2----- | BENZENE | 100 | |
| 107-06-2----- | 1 2-DICHLOROETHANE | 20 | U |
| 79-01-6----- | TRICHLOROETHENE | 20 | U |
| 75-27-4----- | BROMODICHLOROMETHANE | 20 | U |
| 108-88-3----- | TOLUENE | 20 | U |
| 127-18-4----- | TETRACHLOROETHENE | 20 | U |
| 124-48-1----- | DIBROMOCHLOROMETHANE | 20 | U |
| 108-90-7----- | CHLOROBENZENE | 960 | E 920 D |
| 100-41-4----- | ETHYL BENZENE | 20 | U |
| 75-25-2----- | BROMOFORM | 20 | U |
| 67-64-1----- | ACETONE | 200 | U |
| 74-88-4----- | IODOMETHANE | 20 | U |
| 75-15-0----- | CARBON DISULFIDE | 20 | U |
| 78-93-3----- | 2-BUTANONE | 100 | U |
| 108-10-1----- | 4-METHYL-2-PENTANONE (MIBK) | 100 | U |
| 540-59-0----- | 1,2-DICHLOROETHENE (total) | 20 | U |
| 1330-20-7----- | XYLENE (total) | 40 | U |
| 97-63-2----- | ETHYL METHACRYLATE | 20 | U |

FORM 1
VOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

16193-7

Lab Name: STI SAVANNAH

Contract:

Lab Code: SL

Case No.:

SAS No.:

SDG No.: QUE009

Matrix: soil/water) WATER

Lab Sample ID: MW-25B

Sample wt vol: 5.00 (g/mL) ML

Lab File ID: P2848

Level: (low/med) LOW

Date Received: 09/22/01

% Moisture: not dec.

Date Analyzed: 09/26/01

GC Column: DB-624 ID: 0.18 (mm)

Dilution Factor: 1.0

Soil Extract Volume: (uL)

Soil Aliquot Volume: (uL)

| CAS NO. | COMPOUND | CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L | Q |
|----------------|-----------------------------|--|---------|
| 74-87-3----- | CHLOROMETHANE | 10 | U |
| 75-01-4----- | VINYL CHLORIDE | 12 | |
| 75-09-2----- | METHYLENE CHLORIDE | 5.0 | U |
| 67-66-3----- | CHLOROFORM | 5.0 | U |
| 71-55-6----- | 1 1 1-TRICHLOROETHANE | 5.0 | U |
| 56-23-5----- | CARBON TETRACHLORIDE | 5.0 | U |
| 71-43-2----- | BENZENE | 35 | |
| 107-06-2----- | 1 2-DICHLOROETHANE | 5.0 | U |
| 79-01-6----- | TRICHLOROETHENE | 5.0 | U |
| 75-27-4----- | BROMODICHLOROMETHANE | 5.0 | U |
| 108-88-3----- | TOLUENE | 1.6 | J |
| 127-18-4----- | TETRACHLOROETHENE | 5.0 | U |
| 124-48-1----- | DIBROMOCHLOROMETHANE | 5.0 | U |
| 108-90-7----- | CHLOROBENZENE | 250 | E 240 D |
| 100-41-4----- | ETHYL BENZENE | 9.4 | |
| 75-25-2----- | BROMOFORM | 5.0 | U |
| 67-64-1----- | ACETONE | 13 | J |
| 74-88-4----- | IODOMETHANE | 5.0 | U |
| 75-15-0----- | CARBON DISULFIDE | 5.0 | U |
| 78-93-3----- | 2-BUTANONE | 25 | U |
| 108-10-1----- | 4-METHYL-2-PENTANONE (MIBK) | 25 | U |
| 540-59-0----- | 1,2-DICHLOROETHENE (total) | 20 | |
| 1330-20-7----- | XYLENE (total) | 10 | U |
| 97-63-2----- | ETHYL METHACRYLATE | 5.0 | U |

FORM 1
VOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

Lab Name: STL SAVANNAH

Contract:

16193-8

Lab Code: SL

Case No.:

SAS No.:

SDG No.: QUE009

Matrix: soil/water) WATER

Lab Sample ID: MW-25A

Sample wt/vol:

5.00 (g/mL) ML

Lab File ID: P2844

Level: (low/med) LOW

Date Received: 09/22/01

% Moisture: not dec. _____

Date Analyzed: 09/26/01

GC Column: DB-624 ID: 0.18 (mm)

Dilution Factor: 25.0

Soil Extract Volume: _____ (uL)

Soil Aliquot Volume: _____ (uL)

| CAS NO. | COMPOUND | CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L | Q |
|----------------|-----------------------------|--|---|
| 74-87-3----- | CHLOROMETHANE | 250 | U |
| 75-01-4----- | VINYL CHLORIDE | 12 | U |
| 75-09-2----- | METHYLENE CHLORIDE | 120 | U |
| 67-66-3----- | CHLOROFORM | 120 | U |
| 71-55-6----- | 1 1 1-TRICHLOROETHANE | 120 | U |
| 56-23-5----- | CARBON TETRACHLORIDE | 120 | U |
| 71-43-2----- | BENZENE | 300 | U |
| 107-06-2----- | 1 2-DICHLOROETHANE | 120 | U |
| 79-01-6----- | TRICHLOROETHENE | 120 | U |
| 75-27-4----- | BROMODICHLOROMETHANE | 120 | U |
| 108-88-3----- | TOLUENE | 30 | J |
| 127-18-4----- | TETRACHLOROETHENE | 120 | U |
| 124-48-1----- | DIBROMOCHLOROMETHANE | 120 | U |
| 108-90-7----- | CHLOROBENZENE | 3400 | U |
| 100-41-4----- | ETHYL BENZENE | 25 | J |
| 75-25-2----- | BROMOFORM | 120 | U |
| 67-64-1----- | ACETONE | 1200 | U |
| 74-88-4----- | IODOMETHANE | 120 | U |
| 75-15-0----- | CARBON DISULFIDE | 120 | U |
| 78-93-3----- | 2-BUTANONE | 620 | U |
| 108-10-1----- | 4-METHYL-2-PENTANONE (MIBK) | 620 | U |
| 540-59-0----- | 1,2-DICHLOROETHENE (total) | 120 | U |
| 1330-20-7----- | XYLENE (total) | 66 | J |
| 97-63-2----- | ETHYL METHACRYLATE | 120 | U |

FORM 1
VOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

16193-9

Lab Name: STL SAVANNAH

Contract:

Lab Code: SL

Case No.:

SAS No.:

SDG No.: QUE009

Matrix: (soil/water) WATER

Lab Sample ID: TB-136C

Sample wt/vol: 5.00 (g/mL) ML

Lab File ID: P2852

Level: (low/med) LOW

Date Received: 09/22/01

% Moisture: not dec.

Date Analyzed: 09/26/01

GC Column: DB-624 ID: 0.18 (mm)

Dilution Factor: 1.0

Soil Extract Volume: _____ (uL)

Soil Aliquot Volume: _____ (uL)

| CAS NO. | COMPOUND | CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L | Q |
|----------------|-----------------------------|--|---|
| 74-87-3----- | CHLOROMETHANE | 10 | U |
| 75-01-4----- | VINYL CHLORIDE | 0.50 | U |
| 75-09-2----- | METHYLENE CHLORIDE | 5.0 | U |
| 67-66-3----- | CHLOROFORM | 5.0 | U |
| 71-55-6----- | 1 1 1-TRICHLOROETHANE | 5.0 | U |
| 56-23-5----- | CARBON TETRACHLORIDE | 5.0 | U |
| 71-43-2----- | BENZENE | 5.0 | U |
| 107-06-2----- | 1 2-DICHLOROETHANE | 5.0 | U |
| 79-01-6----- | TRICHLOROETHENE | 5.0 | U |
| 75-27-4----- | BROMODICHLOROMETHANE | 5.0 | U |
| 108-88-3----- | TOLUENE | 5.0 | U |
| 127-18-4----- | TETRACHLOROETHENE | 5.0 | U |
| 124-48-1----- | DIBROMOCHLOROMETHANE | 5.0 | U |
| 108-90-7----- | CHLOROBENZENE | 5.0 | U |
| 100-41-4----- | ETHYL BENZENE | 5.0 | U |
| 75-25-2----- | BROMOFORM | 5.0 | U |
| 67-64-1----- | ACETONE | 50 | U |
| 74-88-4----- | IODOMETHANE | 5.0 | U |
| 75-15-0----- | CARBON DISULFIDE | 5.0 | U |
| 78-93-3----- | 2-BUTANONE | 25 | U |
| 108-10-1----- | 4-METHYL-2-PENTANONE (MIBK) | 25 | U |
| 540-59-0----- | 1,2-DICHLOROETHENE (total) | 5.0 | U |
| 1330-20-7----- | XYLENE (total) | 10 | U |
| 97-63-2----- | ETHYL METHACRYLATE | 5.0 | U |

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RATION

2318 MILLPARK DR.

MARYLAND HEIGHTS, MISSOURI 63043

314-429-0100

| PROJECT NO: | | PROJECT NAME: | | CONTAINERS NO. OF | CONTAINER DESCRIPTION / ANALYSES REQUESTED | | | | | REMARKS | |
|------------------------------|------|-----------------------|--------------|----------------------|--|---|--|--|--|-------------|-----|
| 23-2000058.00 | | Sedalia - Queeny | | | VOCs (8260) | | | | | | |
| SAMPLER'S: (Signature) | | <i>Tamara Schwart</i> | | | | | | | | | |
| DATE | TIME | SAMPLE I.D. NUMBER | | | 3 | X | | | | HCl | |
| 9/20/01 | 1140 | MW-24B | | | | X | | | | | HCl |
| 9/20/01 | 1140 | MW-24B Dup | | | | X | | | | | HCl |
| 9/20/01 | 1200 | MW-24A | | | | X | | | | | HCl |
| 9/20/01 | 1430 | VW-1 | | | | X | | | | | HCl |
| 9/20/01 | 1500 | VW-2B | | | | X | | | | | HCl |
| 9/20/01 | 1500 | VW-2B MS | | | | X | | | | | HCl |
| 9/20/01 | 1500 | VW-2B MSD | | | | X | | | | | HCl |
| 9/21/01 | 1245 | VW-2 | | | | X | | | | | HCl |
| 9/21/01 | 1415 | MW-25B | | | | X | | | | | HCl |
| 9/21/01 | 1645 | MW-25A | | | X | | | | | HCl | |
| RELINQUISHED BY: (Signature) | | | DATE / TIME | | RECEIVED BY: (Signature) | | | | | DATE / TIME | |
| <i>Jeff Adams</i> | | | 9/21/01 1800 | | | | | | | | |
| RELINQUISHED BY: (Signature) | | | DATE / TIME | | RECEIVED AT LAB BY: (Signature) | | | | | DATE / TIME | |
| METHOD OF SHIPMENT: | | | | | AIRBILL NO: | | | | | | |
| <i>FIAEX</i> | | | | | 4N7D02770104, FA052 | | | | | | |

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RATION

2318 MILLPARK DR.

MARYLAND HEIGHTS, MISSOURI 63043

314-429-0100

| PROJECT NO: | | PROJECT NAME: | | NO. OF CONTAINERS | CONTAINER DESCRIPTION / ANALYSES REQUESTED | | | | | REMARKS |
|------------------------------|------|--------------------------------------|--------------|-------------------|--|--|--|--|--|---|
| 23-2000058.0 | | Solutia - Queeny Jennifer Schmidt | | | VOCs (air) | | | | | |
| DATE | TIME | SAMPLE I.D. NUMBER | | | | | | | | |
| 9/21/01 | | TB-B6C | | | | | | | | TRIP Blank |
| | | | | | | | | | | *Send results Attention of Amelia Turnell |
| | | | | | | | | | | *Need 48-hour turn around |
| | | | | | | | | | | |
| | | | | | | | | | | |
| | | | | | | | | | | |
| | | | | | | | | | | |
| RELINQUISHED BY: (Signature) | | | DATE / TIME | | RECEIVED BY: (Signature) | | | | | DATE / TIME |
| Jeff Adams | | | 9/21/01 1800 | | | | | | | |
| RELINQUISHED BY: (Signature) | | | DATE / TIME | | RECEIVED AT LAB BY: (Signature) | | | | | DATE / TIME |
| METHOD OF SHIPMENT: | | | Fed Ex | | AIRBILL NO: | | | | | 821271045452 |